



PATENT ABSTRACTS OF JAPAN

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(54) PUMP WITH SELF-LIQUID FLUID BEARING

(57) Abstract:

PROBLEM TO BE SOLVED: To simplify the maintenance for lubrication and shaft sealing by forming a rotating wear ring fitted into the shroud part of an impeller out of a material having excellent seizure resistance, and supporting a rotor by means of dynamic fluid of self-liquid fluid produced by operating a pump.

SOLUTION: A multiple stage centrifugal pump, having an impeller 2 fitted onto a pump shaft 1 forming a rotor, is provided with a stationary wear ring 10 and a rotating wear ring 9 so that they may face with a clearance S therebetween, with the former fitted onto the inner-periphery surface of an inner casing 6 and the latter formed out of a material having excellent seizure resistance and fitted onto the outer periphery surface of the shroud part 8 of the impeller 2. When the pump is rotated, axial flow by a pressure difference across it and circumferential flow by the rotation occur in the clearance S. The axial flow, out of those occurring in

the clearance S, acts dominantly, so that the part between both wear rings 10, 9 serves as a leaky seal by means of self-liquid of the pump, thus it is possible to keep fluid dynamics in a stable condition for stable driving condition of the pump.

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